

CLAIMS:

1. A stent characterized by a longitudinal axis, the stent comprising at least one serpentine band extending about the circumference of the stent and having alternating peak portions and trough portions,

the peak portions including shorter peak portions and longer peak portions, the longer peak portions of a longitudinal extent greater than the shorter peak portions,

the longer peak portions including first bent peak portions which extend in a first direction non-parallel to the longitudinal axis of the stent and second bent peak portions which extend in a second direction non-parallel to the longitudinal axis of the stent,

each first bent peak portion circumferentially adjacent to one second bent peak portion which points toward the first bent peak portion and to one second bent peak portion which points away from the first bent peak portion,

adjacent first and second bent peak portions which point toward one another separated one from the other by at least one shorter peak portion.

2. The stent of claim 1 wherein the trough portions include shorter trough portions and longer trough portions, the longer trough portions of a longitudinal extent greater than the shorter trough portions,

the longer trough portions including first bent trough portions which extend in a first direction non-parallel to the longitudinal axis of the stent and second bent trough portions which extend in a second direction non-parallel to the longitudinal axis of the stent,

each first bent trough portion circumferentially adjacent to one second bent trough portion which points toward the first bent trough portion and to one second bent trough portion which points away from the first bent trough portion,

adjacent first and second bent trough portions which point toward one another separated one from the other by at least one shorter trough portion.

3. The stent of claim 3 comprising a plurality of the serpentine bands.

4. The stent of claim 3 wherein serpentine bands which are longitudinally adjacent one another are connected one to the other.

5. The stent of claim 3 wherein serpentine bands which are longitudinally adjacent one another are connected one to the other by at least one longitudinal connector extending from a shorter peak portion of one serpentine band to a shorter trough portion on a serpentine band which is longitudinally adjacent thereto.

6. The stent of claim 3 wherein serpentine bands which are longitudinally adjacent one another are connected one to the other by a plurality of longitudinal connectors which extend from shorter peak portions of one serpentine band to shorter trough portions on a serpentine band which is longitudinally adjacent thereto.

5 7. The stent of claim 6 wherein adjacent first and second bent trough portions which point away from one another are not separated by any shorter trough portions and adjacent first and second bent peak portions which point away from one another are not separated by any shorter peak portions.

8. The stent of claim 6 wherein adjacent first and second bent trough portions
10 which point away from one another are not separated by any shorter trough portions, adjacent first and second bent peak portions which point away from one another are not separated by any shorter peak portions, adjacent first and second bent trough portions which point toward one another are separated one from the other by at least two shorter trough portions and adjacent first and second bent peak portions which
15 point toward one another are separated one from the other by at least two shorter peak portions.

9. The stent of claim 1 made of one or more shape memory materials.

10. The stent of claim 1 constructed and arranged to be self-expanding.

11. In combination, a stent as in claim 10 disposed on a catheter, the stent
20 restrained by a sheath.

12. A stent comprising at least one serpentine band with a plurality of alternating peak portions and trough portions, the peak portions including at least two bent peak portions which bend toward one another, each of the bent peak portions wrapping at least partially about an adjacent peak.

13. The stent of claim 12 wherein the trough portions including at least two bent trough portions which bend toward one another, each of the bent trough portions wrapping at least partially about an adjacent trough.

14. The stent of claim 13 comprising a plurality of the serpentine bands.

15. The stent of claim 14 where adjacent serpentine bands are connected one to the other via at least one connector extending from a peak portion of one serpentine band to a trough portion of an adjacent serpentine band.
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16. The stent of claim 14 where adjacent serpentine bands are connected one to the other via a plurality of connectors extending from peak portions of one serpentine band to trough portions of an adjacent serpentine band.

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17. The stent of claim 16 wherein the connectors are parallel to the longitudinal axis of the stent.

18. The stent of claim 16 wherein each connector has a first end and a second end, the first and second end circumferentially aligned one with the other.

5 19. The stent of claim 1 made of one or more shape memory materials.

20. The stent of claim 1 constructed and arranged to be self-expanding.

21. The stent of claim 1 further comprising a coating, at least a portion of the stent having the coating thereon.

22. The stent of claim 21 wherein the coating is a matrix compound.

10 23. The stent of claim 21 wherein the coating is selected from at least one member of the group consisting of: lactide, glycolide, and caprolactone polymers and their copolymers; hydroxybutyrate and polyhydroxyvalerate and their block and random copolymers; a polyether ester; anhydrides, polymers and copolymers of sebacic acid, hexadecandioic acid; orthoesters; polydioxinone; polyglycolic acid and polylactic acid, their block and random copolymers and any combination thereof.

15 24. A stent comprising at least one serpentine band with a plurality of alternating peak portions and trough portions, the peak portions including at least two bent peak portions which bend away from one another, the at least two peak portions being connected by a connector.

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